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WASHINGTON POST
7 June 1986

Two Sticking Points of SALT

President Reagan, in announcing his recent decision to exceed the numerical limits of the 1979 SALT II arms control agreement, cited "continuing Soviet noncompliance" with the pact. Here is the background of the two Soviet programs mentioned by Reagan as violations of SALT II, which was signed by the two superpowers in 1979 but never ratified by the U.S. Senate, and of the pertinent limitations contained in the document.

SS25 'New Missile'

One of the hard-fought provisions of SALT II was that each side could flight-test and deploy only one additional "new type" of land-based intercontinental ballistic missile during the life of the treaty.

In 1982, the Soviets began to test a new weapon dubbed the SS24; Moscow notified the United States that this would be the "new type" permitted under SALT II. In early 1983, the Soviets began testing a second new weapon, which the United States calls the SS25 and which is a violation of the limits, according to the U.S. government.

The U.S. objective in limiting "new types" of missiles was to impede the race in quality and effectiveness of strategic weapons, a race as serious as that in numbers of weapons. Ralph Earle, who was part of the U.S. negotiating team during the SALT II process, said recently that the restriction on new types of missiles in the treaty was only "a gesture" toward limits on quality that Washington had hoped to obtain.

The Carter administration initially proposed a ban on any "new types" of ICBMs but the Soviets refused. Eventually the two sides agreed on one new missile each, so the United States could go ahead with its planned MX missile and the Soviets with either a new multiwarhead weapon (such as the SS24) or a new single-warhead weapon (such as the SS25). The Reagan administration contends that the Soviets went ahead with both in violation of the treaty.

How to distinguish a "new type" from an existing missile was the subject of much negotiation. In the end the two sides agreed to consider up to a 5 percent variation in length, diameter, launch-weight or throw-weight as a modification of an existing weapon; above 5 percent would be considered a "new type."

The Soviet Union has claimed that the SS25 is a permissible modernization of the SS13, an old single-warhead weapon from the 1960s. Rejecting this claim, the U.S. Arms Control and Disarmament Agency said recently the throw-weight of

the SS25 is 50 percent greater than the SS13 and, thus, far from what is allowed.

Marshal Sergei Akhromeyev, Soviet army chief of staff, said this week that the United States has underestimated the throw-weight of the SS13 and overestimated that of the SS25, citing technicalities that the United States rejects.

Since the Soviets will not disclose the specifications of their weapons, the United States relies on calculations based on observation of Soviet missiles in test flights and interception of missile test data, known as telemetry, which is radioed to Earth.

Secretary of Defense Caspar W. Weinberger said June 1 that 72 SS25 missiles have been deployed, "each one a violation of the SALT agreement." The disputed weapon is being deployed ~~on~~ a truck for easy mobility. This would make the SS25 less vulnerable to U.S. attack in time of war and particularly valuable if fixed, silo-based Soviet missiles are threatened or knocked out.

The United States is in the early stages of developing a second "new type" of missile, the single-warhead Midgetman. Officials said this is not a violation of the treaty now because it is far from flight-testing stage.

Telemetry Encoding

Limiting the encoding of electronic missile testing data—telemetry—was among the touchiest and most contentious issues of the SALT II negotiations and among the last to be settled.

Both sides "listen" to electronic data that the other side's missiles send from space to monitors on Earth. This is particularly important to the United States as one of few sources of detailed technical information about Soviet military programs and a key means of verifying whether the Soviet Union is complying with treaty restrictions.

Because secret U.S. intelligence capabilities were at stake, the issue was so sensitive that for several years U.S. negotiators under Presidents Nixon, Ford and Carter were forbidden to mention the word "telemetry" to Soviet negotiators, even while trying hard to restrict "deliberate concealment measures." Finally a Soviet negotiator mentioned the word and opened up the subject.

Telemetry usually consists of signals transmitted over 40 to 60 electronic channels carrying a variety of information about the performance of a test missile. The Soviets had encoded some of these channels on their missile test flights since the mid-1970s, and U.S. officials were eager to eliminate or minimize the practice.

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The United States did not propose that all encoding of telemetry be banned, primarily because negotiators argued that the Soviets would never accept such a restriction. Instead the U.S. proposed—and the Soviets ultimately accepted—a prohibition on telemetry encryption that “impedes verification of compliance with the provisions of the treaty.”

U.S. negotiators conceded then—and Reagan administration officials concede now—that it is a “judgment call” to determine when encoding is permitted and when it is so extensive as to impede treaty compliance. During the last stages of the 1979 negotiations, strenuous efforts were made by the United States to describe impermissible encryption in order to strengthen the restriction.

The Soviet Union is reported to have sharply stepped up its telemetry encryption around 1981, prompting increasingly strong U.S. protests. Earle, the final chairman of the U.S. negotiating team for SALT II, said recently his “subjective view” is that the Soviets raised encryption levels when the United States made it clear it would not ratify the treaty, but would merely refrain from undercutting it so long as Moscow did the same.

The Soviets have insisted publicly and in diplomatic channels that their encryption of telemetry has been within the range permitted by SALT II. The Reagan administration has called the encryption, which according to officials has been at its most extensive on the SS25 missile, “deliberate impeding of verification” and thus a serious violation of SALT II.

—Don Oberdorfer — J